AMENDMENTS TO THE DRAWINGS:

The amendments to the drawings are indicated in red ink on a marked-up copy of the originally-filed drawing sheet containing Fig. 2. The amendments to the drawings are incorporated in the attached, formal replacement drawing sheet. In particular, Fig. 2 has been amended to add labels to Fig. 2.

Attachments: Marked-up Copy of One Originally-filed Drawing Sheet
One Replacement Sheet

REMARKS

By this Amendment After Final, Applicants have amended claims 1, 3, 4, 7, 8, 11, 13, 14, 17, and 18, and amended Fig. 2. No new matter has been added. Claims 1, 3-11, and 13-18 are pending in the application.

I. Objection to the Drawings

In the Final Office Action, the Examiner objected to Fig. 2 "because it does not have sufficiently descriptive labels." Final Office Action at 2. In particular, the Examiner asserts that "[b]lank boxes in drawings should be labeled descriptively unless it is a well-known component." Id. Applicants have amended Fig. 2 to add labels to the "blank boxes," as requested by the Examiner. Submitted along with this Amendment After Final, is a marked-up copy of the originally-filed drawing sheet containing Fig. 2, which shows Applicants' amendments to Fig. 2 in red ink, along with a Replacement Sheet, which incorporates the amendments to Fig. 2. Therefore, Applicants respectfully request reconsideration and withdrawal of the objection to Fig. 2.

II. Objection to the Claims

In the Final Office Action, the Examiner objected to claims 1, 11, and 18. Final Office Action at 3. The Examiner asserts that those claims include a number of informalities and suggests possible changes to those claims to obviate the objection. To the extent that other amendments to those claims have not obviated the asserted informalities, Applicants have amended those claims as suggested by the Examiner. Therefore, Applicants respectfully request reconsideration and withdrawal of the claim objections.

III. Rejection under 35 U.S.C. § 112, Second Paragraph

In the Final Office Action, the Examiner rejected claims 7, 8, 17, and 18 under 35 U.S.C. § 112, second paragraph. Final Office Action at 3-5. In the rejection statement, the Examiner asserts that claims 7, 8, 17, and 18 contain a number of limitations that are "vague and indefinite." Id. By this Amendment After Final, Applicants have made minor, clarifying amendments to claims 7, 8, 17, and 18 in order to expedite issuance of a Notice of Allowance. No new matter has been added. Therefore, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 7, 8, 17, and 18 under 35 U.S.C. § 112, second paragraph. Since the amendments to claims 7, 8, 17, and 18 are of a clarifying nature only, unless otherwise noted herein, the amendments to those claims are not meant to further limit the scope of those claims, and the claims should be interpreted in that light.

IV. Rejections under 35 U.S.C. § 103(a) of Independent Claims 1 and 11

In the Final Office Action, the Examiner rejected claims 1, 7-11, 17, and 18 under 35 U.S.C. § 103(a) as being unpatentable over Gonyea et al. (U.S. Pat. App. Pub. No. US 2001/0032109) in view of Deguchi et al. (U.S. Patent No. 6,608,666). Claims 1 and 11 are the only independent claims rejected under § 103(a) based on the Examiner's proposed, hypothetical combination of Gonyea et al. and Deguchi et al.

As outlined previously herein, Applicants have amended independent claims 1 and 11. To the extent, however, that the Examiner considers asserting new rejections based on the Gonyea et al. and/or Deguchi et al. references, Applicants respectfully submit that those references, taken either individually or in combination, fail to disclose

or suggest all of the subject matter recited in each of amended independent claims 1 and 11, as will be explained in more detail below.

In accordance with the M.P.E.P., "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly of inherently described, in a single prior art reference." § 2131 (citation omitted). Thus, a claim is only properly rejected under 35 U.S.C. § 102(b) if the reference discloses all of the subject matter recited in the claims. Concerning rejections under 35 U.S.C. § 103(a), the M.P.E.P. advises that in order to establish that a claim is *prima facie* obvious, "the prior art reference (or references when combined) must teach or suggest all the claim limitations." § 2143. In addition, even if the combination of references discloses all of the claim limitations, "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." Id. In particular, "[t]he teaching or suggestion to make the claimed combination . . . must . . . be found in the prior art, not in applicant's disclosure." Id. (citation omitted). In fact, the M.P.E.P. advises that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." § 2143.01 (citation omitted). Furthermore, "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." Id. (citation omitted).

Applicants respectfully submit that the Gonyea et al. and Deguchi et al. references, regardless of whether they are viewed individually or in combination, fail to disclose or suggest all of the subject matter recited in each of Applicants' amended

independent claims 1 and 11. Thus, neither of those references provide a basis for rejecting either of Applicants' independent claims 1 and 11 under 35 U.S.C. § 102(b) or § 103(a). Furthermore, even if, for the sake of argument, the Gonyea et al. and Deguchi et al. references did collectively disclose all of the subject matter recited in Applicants' amended independent claims 1 and 11, there is no legally proper suggestion or motivation to modify or combine the Gonyea et al. and Deguchi et al. references' disclosures in a manner resulting in a *prima facie* case of obviousness with respect to Applicants' independent claims 1 and 11.

A. Amended Independent Claim 1

Applicants' amended independent claim 1 is directed to a part maintenance system for a semiconductor processing system. The part maintenance system includes a factory-side system having at least one semiconductor processing system, and a vendor-side system operated by an administrator who manages maintenance of the semiconductor processing system. The factory-side system includes a preset means, which stores at least one of a predetermined allowable limit value of operation time, a predetermined number of operations of a part of the semiconductor processing system, a normal operation time and an allowable limit value of the normal operation time, and a time-passage change and an allowable limit value of the time-passage change. The factory-side system further includes a measuring means, which measures actual operation time or a number of actual operations of the part, and a maintenance judging means, which judges operating conditions of the part by comparing the actual operation time or the number of actual operations and the predetermined allowable limit value with each other to judge whether or not an order processing request of the part is desired.

As recited, the factory-side system also includes a factory-side sending/receiving means, which sends an order processing request of the part to the vendor-side system through a network upon judging that the order processing request of the part is desired by the maintenance judging means. As further recited, the factory-side sending/receiving means does not send any data for a maintenance of the part of the semiconductor processing system to the vendor-side system through the network upon judging that the order processing request of the part is not desired by the maintenance judging means. The vendor-side system of the part maintenance system includes a vendor-side sending/receiving means, which sends and receives information to and from the factory-side system through the network, and a part order processing means, which processes an order of a part when the vendor-side sending/receiving means receives the order processing request of the part from the factory-side system through the network. The factory-side system stores at least two stage limit value levels as the predetermined allowable limit value of operation time, which is previously set by the preset means, and when the maintenance judging means judges that the actual operation time or the number of actual operations reaches a first stage limit value level, the factory-side sending/receiving means sends an order processing request of a replacement for the part to the vendor-side system through the network. When the actual operation time or the number of actual operations reaches a second stage limit value level, the factory-side system carries out a notice processing.

The Gonyea et al. and Deguchi et al. references fail to disclose or suggest all of the subject matter recited in amended independent claim 1. For example, those references fail to disclose or suggest a part maintenance system, including at least a factory-side system including a maintenance judging means, which judges operating

conditions of the part by comparing the actual operation time or the number of actual operations and the predetermined allowable limit value with each other to judge whether or not an order processing request of the part is desired. The Gonyea et al. and Deguchi et al. references also fail to disclose or suggest a factory-side system including a factory-side sending/receiving means, which sends an order processing request of the part to the vendor-side system through a network upon judging that the order processing request of the part is desired by the maintenance judging means. As recited in Applicants' amended independent claim 1, the factory-side sending/receiving means does not send any data for a maintenance of the part of the semiconductor processing system to the vendor-side system through the network upon judging that the order processing request of the part is not desired by the maintenance judging means.

Rather than disclosing or suggesting a factory-side system that includes a maintenance judging means and/or a sending/receiving means, which sends an order processing request of the part to the vendor-side system through a network upon judging that the order processing request of the part is desired by the maintenance judging means, the Gonyea et al. reference discloses a client-server system including a computer server 15 that runs a server prediction application. The Gonyea et al. server computer 15 accesses data within a data base 26 in order to operate an aggregator 59, including a scheduler 60 and a simulator 62, that determine an output 70, including aggregated maintenance schedule and costs, which, in turn are sent to a local computer 10 located at the manufacturing site.

In other words, even if for the sake of argument, the Gonyea et al. local computer 10 is deemed to hypothetically correspond to amended independent claim 1's recited "factory-side system," and the server computer 15 is deemed to hypothetically

correspond to amended independent claim 1's "vendor-side system," Gonyea et al. discloses that the server computer 15 determines an aggregated maintenance schedule and costs. The hypothetical Gonyea et al. factory side-system, on the other hand, merely sends product data, such as "operating conditions for given time period" to the hypothetical Gonyea et al. vendor-side system. For at least these reasons, the Gonyea et al. reference fails to disclose or suggest a part maintenance system including at least a factory-side system including a maintenance judging means, which judges operating conditions of the part by comparing the actual operation time or the number of actual operations and the predetermined allowable limit value with each other to judge whether or not an order processing request of the part is desired. Furthermore, the Gonyea et al. reference also fails to disclose or suggest a factory-side system including a factory-side sending/receiving means, which sends an order processing request of the part to the vendor-side system through a network upon judging that the order processing request of the part is desired by the maintenance judging means. For example, the Gonyea et al. reference fails to disclose or suggest a factory-side sending/receiving means that does not send any data for a maintenance of the part of the semiconductor processing system to the vendor-side system through the network upon judging that the order processing request of the part is not desired by the maintenance judging means.

The Deguchi et al. reference fails to overcome the above-outlined deficiencies of the Gonyea et al. reference. Rather, the Deguchi et al. reference discloses a business office 101 of a vendor (e.g., located at a vendor-side), which provides a semiconductor device manufacturing apparatus, such as semiconductor manufacturing apparatuses for performing various processes used in a semiconductor manufacturing factory (e.g., located at a factory-side), such as pre-process apparatuses and post-process

apparatuses. (See Figs. 5 and 6 and associated disclosure in columns 6 and 7.) The business office 101 includes a host management system 108 for providing a maintenance database for the manufacturing apparatus. Each of factories 102, 103, and 104 is equipped with a plurality of manufacturing apparatuses 106, a LAN 111, which connects the apparatuses 106, and a host management system 107, which serves as a monitoring apparatus for monitoring the operation status of each manufacturing apparatus 106. Each factory 102, 103, and 104 can access the host management system 108 of the vendor 101 from the LAN 111 via the Internet 105. In particular, each factory 102, 103, and 104 notifies the vendor via the Internet 105 of status information (e.g., the symptom of a manufacturing apparatus in trouble) representing the operation status of each manufacturing apparatus 106, and receives response information (e.g., information designating a remedy for the trouble, or remedy software or data) corresponding to the information, such as the latest software or help information.

Referring to Fig. 6 of Deguchi et al., a manufacturing factory 201 of a manufacturing apparatus user includes manufacturing apparatuses for performing various processes installed in the manufacturing line of the factory. The apparatuses in the factory are connected to a LAN 206, and a host management system 205 manages the operation of the manufacturing line. The business offices of vendors (e.g., the apparatus supply manufacturers) such as an exposure apparatus manufacturer 210, a resist processing apparatus manufacturer 220, and a film formation apparatus manufacturer 230, include host management systems 211, 221, and 231 for executing remote maintenance for the supplied apparatuses. The host management system 205 for managing the apparatuses in the manufacturing factory of the user, and the

management systems 211, 221, and 231 of the vendors for the respective apparatuses are connected via the Internet 105 or dedicated network serving as an external network 200. If trouble occurs in any one of a series of manufacturing apparatuses along the manufacturing line in this system, the operation of the manufacturing line stops. This trouble can be solved by remote maintenance from the vendor of the apparatus in trouble via the Internet 200.

In short, even if, for the sake of argument, the Deguchi et al. host management system 107 in each of the factories 102, 103, and 104 is deemed to hypothetically correspond to amended independent claim 1's recited "factory-side system," and the host management system 108 of the vendor 101 is deemed to hypothetically correspond to amended independent claim 1's "vendor-side system," Deguchi et al. discloses that the vendor 101's host management system 108 executes remote maintenance for the supplied apparatuses rather than the factories' host management systems 107. In particular, if trouble occurs with any of the manufacturing apparatuses 106 of the factories 102, 103, and 104, Deguchi et al. discloses solving the trouble remotely at the vendor 101.

For at least the above-outlined reasons, like Gonyea et al., the Deguchi et al. reference does not disclose or suggest a part maintenance system including at least a factory-side system including a maintenance judging means, which judges operating conditions of the part by comparing the actual operation time or the number of actual operations and the predetermined allowable limit value with each other to judge whether or not an order processing request of the part is desired. Furthermore, the Deguchi et al. reference also fails to disclose or suggest a factory-side system including a factory-side sending/receiving means, which sends an order processing request of the part to

the vendor-side system through a network upon judging that the order processing request of the part is desired by the maintenance judging means. For example, the Deguchi et al. reference fails to disclose or suggest a factory-side sending/receiving means that does not send any data for a maintenance of the part of the semiconductor processing system to the vendor-side system through the network upon judging that the order processing request of the part is not desired by the maintenance judging means.

Possible advantages of Applicants' recited part maintenance system that includes a factory-side system having a maintenance judging means may include, for example, the ability to judge an abnormality in the semiconductor processing system without relying on a vendor-side system. This may provide a possible benefit, for example, in the event of loss of communication with the vendor-side system. Under such circumstances, operation of the semiconductor processing system may be ceased in a timely manner, for example, when the factory-side system receives information indicating an urgent need for maintenance. Furthermore, Applicants' factory-side system's maintenance judging means may result in, for example, more efficient control of the semiconductor processing system due to the possibility of real time data processing. Additionally, Applicants' recited factory-side system may also provide security benefits, for example, by virtue of keeping more information within the factory-side system rather than sending such information to a vendor via the Internet. Neither Gonyea et al. nor Deguchi et al. discloses or suggests such a part maintenance system.

For at least the above-outlined reasons, the Gonyea et al. and Deguchi et al. references, regardless of whether they are viewed individually or in combination, fail to disclose or suggest all of the subject matter recited in Applicants' amended independent

claim 1. Therefore, independent claim 1 is patentably distinguishable from Gonyea et al. and/or Deguchi et al.

Furthermore, even if, for the sake of argument, the Gonyea et al. and Deguchi et al. references did collectively disclose all of the subject matter recited in Applicants' amended independent claim 1, there is no legally proper suggestion or motivation to modify or combine the Gonyea et al. and Deguchi et al. references' disclosures in a manner resulting in a *prima facie* case of obviousness with respect to Applicants' independent claim 1. As outlined previously herein, even if a combination of references discloses all of a claim's limitations, "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." M.P.E.P. § 2143. In addition, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." § 2143.01 (citation omitted). In particular, "[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." Id. (citation omitted).

Applicants respectfully submit that hypothetically modifying or combining the Gonyea et al. and/or Deguchi et al. disclosures in such a manner so as to result in disclosure or suggestion of all of the subject matter recited in Applicants' independent claim 1, would require changing the principle of operation disclosed in each of the Gonyea et al. and Deguchi et al. references. For example, Gonyea et al. discloses that

> Many manufacturers and service organizations are now offering long term service agreements to maintain and service repairable products and systems such as power generation equipment, aircraft engines, automobiles, locomotives and other high tech products. Typically, these long term service agreements have a multi-year duration that can range from 10-20 years. In addition, the long term service agreements have an associated liability in the millions. In order for the manufacturers and the service organizations to assume the risk associated with the long term service agreements, they must have an accurate prediction of all maintenance and service associated with the products or systems and their costs.

(Col. 1, ¶ [003].) Thus, Gonyea et al. discloses that manufacturers and service organizations desire information concerning repair and/or maintenance of manufacturing systems, so that they can determine risks associated with providing long term service agreements. Gonyea et al. discloses a system for meeting the desire for such information by providing a system 28 for predicting a maintenance schedule and costs for performing future service events. The system 28 includes provides service organizations and manufacturers with a server computer 15 for receiving data from a local computer 10 located at the customer's factory. The data sent by the local computer 10 to the server computer 15 includes information that allows the manufacturers and service organizations to predict maintenance schedules and costs for performing future service. If the Gonyea et al. disclosure were modified, however, such that the data was not sent to the server computer, for example, the explicitly-disclosed principle of operation of the Gonyea et al. system would be altered. For at least this reason, such a modification would be improper under the guidance of the M.P.E.P. and prevailing obviousness law.

Like Gonyea et al., modifying the Deguchi et al. reference's disclosure in a hypothetical manner to include all of the subject matter recited in Applicants' independent claim 1 would be legally improper. The Deguchi et al. reference discloses

> A trouble remedy or periodic maintenance of a manufacturing apparatus installed in a semiconductor manufacturing factory, or maintenance service such as software distribution is performed by using a computer network outside the manufacturing factory. (Col. 6, lines 13-17 (emphasis added)).
>
> . . .
>
> . . . [An] operator who manages manufacturing apparatuses in each factory inputs [into a network interface] . . . information such as the type of manufacturing apparatus (401), serial number (402), name of trouble (403), occurrence date (404), degree of urgency (405), symptom (406), remedy (407), and progress (408). The . . . information [is] transmitted to the maintenance database [of the venders] via the Internet, and appropriate maintenance information is sent back from the [vendors'] maintenance database and displayed [on the network interface] . . . . This allows the operator to access detailed information of each item, to receive the latest-version software to be used for a manufacturing apparatus from a software library provided by a vendor, and to receive an operation guide (help information) as a reference for the operator in the factory.

(Col. 7, line 61, through col. 7, line 11.) Thus, Deguchi et al. discloses that factory operators input information into a user interface that sends the information via the Internet to a vender-based host management system that stores and manipulates the information. The vendor-based host management system performs maintenance and service functions remotely from the factory via the Internet. Deguchi et al. discloses that this system allows the factory operators to access information, receive the latest-version software for a manufacturing apparatus from a software library provided by the vendor, and to receive help information from the vendor. Thus, if the Deguchi et al. disclosure were modified such that the information input by the operators was not sent to the

vendor-based host management system, for example, the explicitly-disclosed principle of operation of the Deguchi et al. system would be altered. For at least this reason, such a modification would be improper under the guidance of the M.P.E.P. and prevailing obviousness law.

For at least the above-outlined reasons, the Gonyea et al. and Deguchi et al. references, regardless of whether they are viewed individually or in combination, fail to disclose or suggest all of the subject matter recited in Applicants' amended independent claim 1. Therefore, Applicants' amended independent claim 1 is patentably distinguishable from those references.

B. Amended Independent Claim 11

Applicants' amended independent claim 11 is directed to a part maintenance method in a part maintenance system for a semiconductor processing system in which a factory-side system having at least one semiconductor processing system, and a vendor-side system operated by an administrator who manages maintenance of the semiconductor processing system are connected to each other through a network. The method includes presetting at least one of a predetermined allowable limit value of operation time, a predetermined number of operations of the semiconductor processing system via the factory-side system, a normal operation time and an allowable limit value of the normal operation time, and a time-passage change and an allowable limit value of the time-passage change. The method further includes measuring actual operation time or a number of actual operations of the part via the factory-side system, and comparing the actual operation time or the number of actual operations and the predetermined allowable limit value with each other via the factory-side system to form

a judgment of whether or not an order processing request of the part is desired. The method further includes sending the order processing request of the part to the vendor-side system through the network upon judging that the order processing request of the part is desired, but not sending any data for a maintenance of the part of the semiconductor processing system to the vendor-side system through the network upon judging that the order processing request of the part is not desired. The method further includes carrying out the order processing request of the part when the vendor-side system receives the order processing request of the part from the factory-side system through the network. The predetermined allowable limit value of operation time, which is previously set via the factory-side system is at least a two stage limit value. When the factory-side system judges that the actual operation time or the number of actual operations reaches a first stage limit value level, the order processing request of the part is sent to the vendor-side system through the network. When the factory-side system judges that the actual operation time or the number of actual operations reaches a second stage limit value level, a notice processing is carried out.

The Gonyea et al. and Deguchi et al. references fail to disclose or suggest all of the subject matter recited in amended independent claim 11. For example, for reasons at least similar to those outlined above with respect to amended independent claim 1, those references fail to disclose or suggest a part maintenance method, including at least comparing actual operation time or the number of actual operations and a predetermined allowable limit value with each other via a factory-side system to form a judgment of whether or not an order processing request of the part is desired. Furthermore, for reasons at least similar to those outlined above with respect to amended independent claim 1, the Gonyea et al. and Deguchi et al. references fail to

disclose or suggest a part maintenance method, including sending an order processing request of a part to a vendor-side system through the network upon judging that the order processing request of the part is desired via a factory-side system, but not sending any data for a maintenance of the part of the semiconductor processing system to the vendor-side system through the network upon judging that the order processing request of the part is not desired via the factory-side system.

For at least these reasons, the Gonyea et al. and Deguchi et al. references, regardless of whether they are viewed individually or in combination, fail to disclose or suggest all of the subject matter recited in Applicants' amended independent claim 11. Therefore, Applicants' amended independent claim 11 is patentably distinguishable from those references.

C. Dependent Claims 7-10, 17, and 18

Dependent claims 7-10, 17, and 18 were rejected under 35 U.S.C. § 103(a) based on Gonyea et al. in combination with Deguchi et al. in the Final Office Action. Each of those dependent claims depends from one of patentably distinguishable independent claims 1 and 11. Therefore, dependent claims 7-10, 17, and 18 are patentably distinguishable from Gonyea et al. and/or Deguchi et al. for at least the same reasons independent claims 1 and 11 are patentably distinguishable from those references.

IV. Rejections of Dependent Claims

In the Final Office Action, dependent claims 3, 4, 13, and 14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gonyea et al. in view of Deguchi et al.

and Suyehira (U.S. Patent No. 6,947,161); dependent claims 5 and 15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gonyea et al. in view of Deguchi et al. and further in view of Bazarnik (U.S. Patent No. 4,404,641); and dependent claims 6 and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Gonyea et al. in view of Deguchi et al. and Bazarnik and further in view of Makitani (Japanese Pat. App. Pub. No. 2000-012412). Dependent claims 3-6 and 13-16 depend respectively from allowable independent claims 1 and 11. Therefore, those dependent claims should be allowable for at least the same reasons amended independent claims 1 and 11 are allowable.

V. Conclusion

For at least the reasons set forth above, amended independent claims 1 and 11 should be allowable. Dependent claims 3-10 and 13-18 depend from independent claims 1 and 11, respectively. Consequently, those dependent claims should be allowable for at least the same reasons claims 1 and 11 are allowable.

Therefore, Applicants respectfully request entry of this Amendment After Final, reconsideration of this application, withdrawal of the outstanding objections and claim rejections, and the allowance of claims 1, 3-11, and 13-18.

If the Examiner believes that a telephone conversation might advance prosecution, the Examiner is cordially invited to call Applicants' representative at (571) 203-2739.

Applicants respectfully submit that the Final Office Action contains numerous assertions concerning the related art and the claims. Regardless of whether those

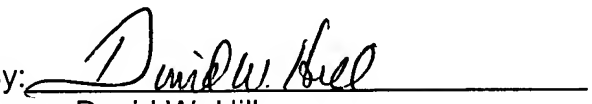
assertions are addressed specifically herein, Applicants respectfully decline to automatically subscribe to them.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 6-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: April 11, 2006

By: 
David W. Hill
Reg. No. 28,220

Attachments: Marked-up Copy of One Originally-filed Drawing Sheet
One Replacement Sheet

FIG.2